

# FISHERY MARKET NEWS

A black and white photograph of a fisherman in a small boat on a harbor, with numerous wooden fishing racks in the background. The fisherman is wearing a light-colored shirt, dark trousers, and a cap, and is looking towards the racks. The racks are made of wood and are arranged in rows, extending into the water. The water is calm, and the sky is overcast.

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## FISHERY MARKET NEWS

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# FISHERY MARKET NEWS

A REVIEW OF CONDITIONS AND TRENDS OF THE COMMERCIAL FISHERIES

June 1940

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## SUMMARY

### Special Articles

Fisheries of the Great Lakes.--The Great Lakes, led by Lake Erie, yield some eighty million pounds of fish annually to seven thousand United States commercial fishermen, furnishing lake herring, lake trout, whitefish, blue and yellow pike, yellow perch, and other important fresh-water food fishes for American consumption.

Seasonal Supplies of Fishery Products at New York.--Monthly indices for 101 of the more important classifications of fishery products received at New York indicate the proportion of the receipts, by items, arriving at the Salt-water Market each month during 1939.

### Fresh Fish

Vessel landings of fresh fish at the three New England ports in April were valued at only \$629,000 to the fisherman, a 34 percent decrease from the value of the March landings. The volume was 57 percent less than that of April 1939.

Sales on the Boston Fish Pier averaged 4.23 cents per pound, greater by 78 percent than the average unit price in April 1939. A total of 13 1/3 million pounds was sold on the Pier in April.

The Chicago Wholesale Fish Market received 4,800,000 pounds of fish in April. Total receipts since the first of the year amounted to 19,100,000 pounds.

### Frozen Fish

Cold-storage stocks of frozen fishery products in the United States declined in the month preceding May 15 to 5 percent below the May 15, 1939, total. There were 33,627,000 pounds on hand on May 15, 1940. Market news reports tending to show distribution of a portion of these holdings reported Boston stocks of 3,381,000 pounds, New York holdings of 4,687,000 pounds, and Chicago stocks of 3,491,000 pounds on hand on May 29. There were 11,663,000 pounds of fishery products frozen in the month ending May 15.

### Canned Fish

Ten percent of the remaining 1,250,000 cases of canned salmon in the hands of packers was sold during April, leaving 1,120,000 cases unsold on April 30. Shrimp canning was slow, with 18,000 cases packed, running the season's total to 1,097,000 cases.

Continued California tuna canning increased the season's pack to 747,000 cases to the end of April. Sardine and mackerel packing was inactive.

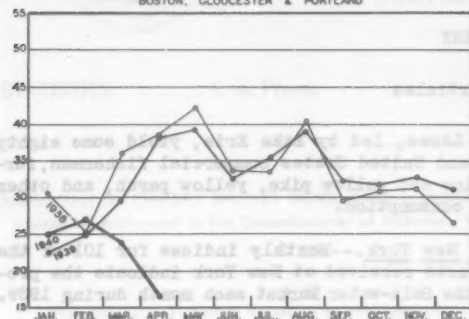
### Foreign Trade

Foreign fishery trade rose slightly in April from the relatively low March figures. Imports of 22,286,000 pounds and exports of 12,007,000 pounds composed a total trade movement of 34,293,000 pounds. Canned sardines exported in the first four months of 1940 exhibited a 97 percent increase over those exported during the corresponding period in 1939.

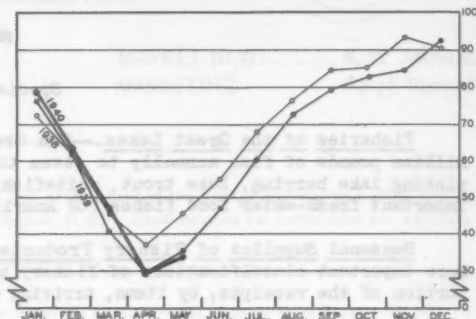
# TRENDS OF FISHERY TRADE

IN MILLIONS OF POUNDS

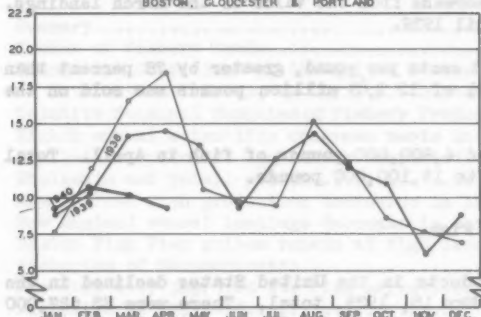
VESSEL LANDINGS, ALL FRESH FISH  
BOSTON, GLOUCESTER & PORTLAND



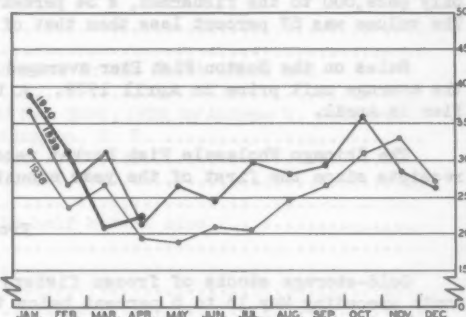
DOMESTIC COLD-STORAGE HOLDINGS OF FROZEN FISH



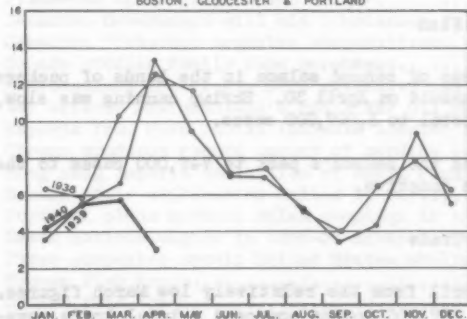
VESSEL LANDINGS, FRESH HADDOCK  
BOSTON, GLOUCESTER & PORTLAND



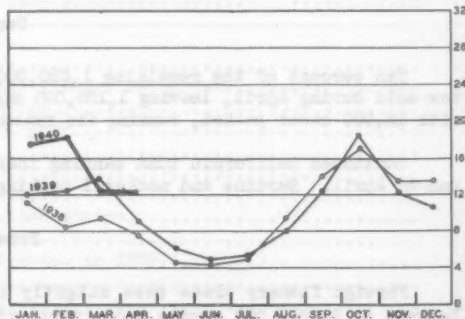
IMPORTS OF EDIBLE FISHERY COMMODITIES



VESSEL LANDINGS, FRESH COD  
BOSTON, GLOUCESTER & PORTLAND



EXPORTS OF EDIBLE FISHERY COMMODITIES



# TRENDS AND CONDITIONS OF THE UNITED STATES FISHERIES IN THE GREAT LAKES AND INTERNATIONAL LAKES

By Cyrus H. Chilton, Junior Marketing Agent  
Division of Fishery Industries

U. S. Bureau of Fisheries

The Great Lakes constitute the largest group of fresh-water lakes on the surface of the earth. They have a combined area of 94,700 square miles and a United States shoreline of 3,770 linear miles.

The waters of the Great Lakes yield annually a harvest of some 150 million pounds of fresh-water fish, of which about 65 percent is taken by United States fishermen. The species taken from the waters of the Great Lakes contribute largely to the preferred fish trade, having in 1938 an average value per pound more than three times that of the average for the entire country.

The total United States catch for 1938 in the Great Lakes and the International Lakes of northern Minnesota amounted to 81,525,000 pounds, valued at \$6,083,000, compared with the catch of 83,958,000 pounds with a value of \$6,033,000 in 1937. The accompanying diagram (figure 1) illustrates how the individual lakes contributed to this 1938 catch.

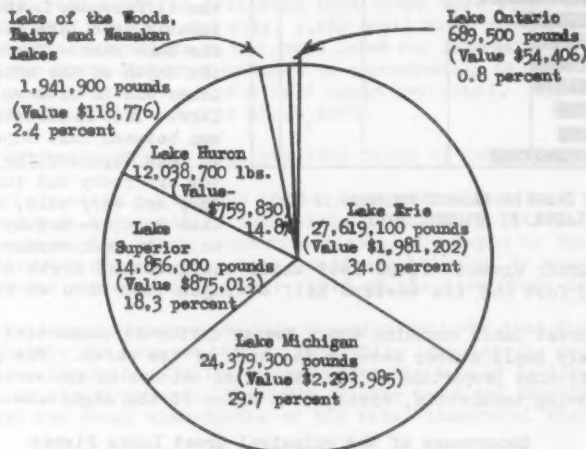


FIG. 1.—DOMESTIC CATCH OF FISHERY PRODUCTS IN THE GREAT LAKES, BY LAKES, 1938

Lake Erie led all other Great Lakes in the production of fish, when the take is considered on a poundage basis. The fish caught in Lake Michigan, however, exceeded in value those obtained from the waters of Lake Erie. The difference in value is \$224,000, largely accounted for by the large yield of lake trout (one of the two most valuable fresh-water fishes) in Lake Michigan.

## Lake Herring is Leading Species in Volume

There are about 32 species of fish and shellfish taken in the Great Lakes and marketed by United States fishermen. The catches of the ten most important varieties are compared in figure 2 on a poundage basis.

It will be observed that the catch of lake herring was more than double that of any other single species, on a poundage basis. This item is not of primary importance to fish-



ermen, however, as it is exceeded in value by several other species. The ten varieties which lead in value are:

Lake trout.....	\$1,496,871	Blue pike.....	\$594,243
Chubs.....	702,769	Yellow pike.....	498,854
Whitefish.....	659,118	Carp.....	170,492
Lake herring.....	634,695	Suckers.....	154,701
Yellow perch.....	601,925	Cisco.....	102,732

Of the total 1938 production of the Great Lakes and International Lakes, these ten varieties represented approximately 90 percent by volume and 95 percent by value.

#### Many Factors Affect Distribution of Fishes in Great Lakes

Although all five of the Great Lakes flow from one into the other, there is a marked variation in the distribution of species in their waters. This may be in part accounted for by their tremendous size and the diversity of conditions in these bodies of water. The

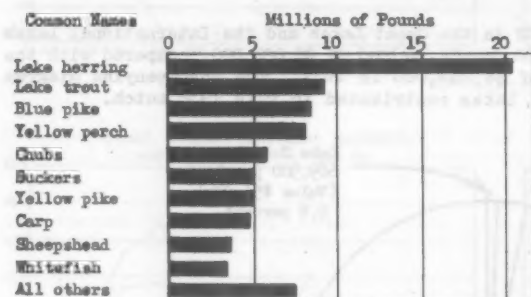


FIG. 2.—DOMESTIC CATCH OF FISHERY PRODUCTS IN THE GREAT LAKES, BY SPECIES, 1938

depth of Lake Superior exceeds 1,200 feet while the greatest depth of Lake Erie, on the other hand, is 210 feet and its western half averages less than 40 feet in depth.

Each of the Great Lakes contains about twenty different commercial fishes. Of these, only a comparatively small number make up the bulk of the catch. The principal varieties comprising a significant proportion of the commercial catches in the various lakes are indicated in the following tabulation, arranged in order of the magnitude of the total annual catch in pounds.

#### Occurrence of the Principal Great Lakes Fishes

Common name	Lakes					
	Superior	Michigan	Huron	Erie	Ontario	International Lakes
Lake herring	X	X	X	--	X	X
Lake trout	X	X	X	--	X	--
Blue pike	--	--	--	X	X	X
Yellow perch	X	X	X	X	X	X
Chubs	X	X	X	--	--	--
Suckers	X	X	X	X	X	X
Yellow pike	X	X	X	X	--	X
Carp	--	X	X	X	X	X
Sheepshead	--	--	X	X	X	--
Whitefish	X	X	X	X	X	X
Smelt	--	X	--	--	--	--
Sauger	--	--	--	X	--	X
Tullibees	--	--	--	--	--	X
Cisco	--	--	--	X	X	--

Only three kinds comprise a significant portion of the catch of all of the lakes, namely, yellow perch, suckers, and whitefish. The whitefish is one of the most valuable of the commercial species. Lake trout do not occur in commercial catches in either the International Lakes or Lake Erie. The waters are presumably too shallow for this recognized king of the interior waters. He requires deep waters for his abode. Two members of the perch family, the blue and yellow pike, find the waters of Lake Erie to their liking, and they are taken from its waters in large quantities. Lakes Erie and Ontario produce the only catch of cisco, while smelt is found in abundance as yet only in the Green Bay area of Lake Michigan, although they are gradually becoming more abundant in other parts of the lake and in Lakes Huron and Superior.

Of considerable interest to the fishermen was the return of ciscoes to the eastern end of Lake Erie during the fall fishing season of 1938. The supply of this fish in Lake Erie had been considered by many to have become depleted for all time. After an unusually large catch in 1924 this species of fish disappeared almost entirely from the commercial catches in 1925. In 1924 the United States catch of ciscoes was 21,293,000 pounds, in 1925 it dropped to 2,817,000 pounds, and in 1928 was only 618,000 pounds. Thereafter, until 1938, the catch never exceeded the 1928 figure and usually was about one hundred thousand pounds annually. In 1938 there was a sudden increase in the United States catch of cisco, resulting in a commercial harvest of 810,000 pounds. The recovery of the cisco fishery in 1938 was only temporary, for, although actual figures are not yet available, the total catch in 1939 was considerably below that of 1938.

The most recent complete survey for the fisheries of the Great Lakes by United States fishermen covers the year 1938 and indicates that there were 6,976 commercial fishermen, 469 fishing vessels of 5 net tons and over, 1,662 small motor boats, and 1,659 other small boats engaged in fishing operations on the Great Lakes and International Lakes. The average annual production for these fishermen amounted to approximately 12,000 pounds for which they received an average of about seven and a half cents per pound. The annual average gross income per fisherman for this area was about \$900.

#### Preliminary Reports Indicate 1939 Catch of Usual Proportions

Inasmuch as the statistical canvass of the commercial fisheries of the Great Lakes for the 1939 season has just begun, it is impossible to obtain positive information upon the conditions and trends in the Great Lakes fisheries as displayed by the commercial catches during 1939. Sufficient reports have been received, however, to enable us to make a few preliminary statements concerning the 1939 yield of the five Great Lakes.

Reports received from fishermen on Lake Superior indicate that the production of lake trout was approximately the same as that of 1938 while lake herring entered the commercial catches in increased abundance. It is estimated that the take of lake herring exceeded that of 1938 by approximately 15 percent. The catch of lake trout and lake herring during recent years has accounted for about nine-tenths of the total commercial fish production in Lake Superior.

The Lake Michigan fisheries were marked by a sharp decline in the take of chubs during 1939. Estimates place this decline at 25 to 40 percent of the total catch of this species during the previous year. The take of lake trout was about normal, and little change was indicated from the 1938 catch in the take of lake herring, perch, carp, and suckers. The fishery for smelt in the area near Green Bay, which has increased tremendously during recent years, was estimated to have been about three million pounds during 1939. Figures covering this fishery are not included in the commercial fisheries catch for Lake Michigan inasmuch as this species is taken by dip nets on sportsmen's licenses.

Lake Huron experienced an increase in the catch of yellow pike and whitefish. While normal catches of lake herring, lake trout, and lake suckers have been reported for this lake, the take of yellow pike and whitefish was estimated to be approximately 25 percent above the catch for these species during the previous year.

An increased catch of whitefish was the outstanding characteristic in the fisheries of Lake Erie during 1939. The eastern end of this lake yielded significant catches of this species during the fall of the year. These contributed to some increase over 1938 figures. The western part of Lake Erie presented a productive area for the capture of yellow pike

during the spring fishing season, causing an estimated 25 percent increase in the poundage secured. The abundance of blue pike in the fishermen's catches declined. Yellow perch displayed an estimated 50 percent decrease below the 1938 figures. Sauger, carp, and cisco were captured in what was considered to be customary amounts.

The 1939 take of fish for Lake Ontario included a sharp increase of approximately 100 percent in the catch of carp. These fish are obtained through seining operations in the bays and inlets. The Lake Ontario catch of whitefish is reported to have been some 25 percent larger than in 1938, while the take of saugers, yellow perch, blue pike, ciscoes, and catfish was about equal to that of the previous year.

#### RELATIVE SEASONAL SUPPLIES OF FISHERY PRODUCTS AT NEW YORK, 1939

By Andrew W. Anderson, Fishery Marketing Specialist  
Division of Fishery Industries, U. S. Bureau of Fisheries

Disseminating current information on the production and marketing of fishery products through the medium of daily mimeographed reports is, perhaps, the most familiar of the services rendered the fishing industry by the various field offices of the Fishery Market News Service. With increased knowledge of production and marketing gained through experience, and aided by improvements in methods of collecting and compiling information, most of the offices now issue weekly, monthly, and annual summaries of the data in the daily reports. Often the summarized information is augmented by additional detailed data which time and space do not permit including in the daily releases. Much of this information is the first of its type ever made available to the fishing industry and is, therefore, of considerable utility in basic studies with respect to fisheries production, marketing, distribution, conservation, and legislation. Analyses of the data accumulated over longer periods now are being carried on in order to present factual information to the industry for use in solving its problems.

The following tabulation, an index by species and months, of the receipts of fresh and frozen fishery products at the Salt-water Market in New York City is derived from the 1939 annual summary recently released by the New York Market News office. In the first column of this statement are listed the annual receipts of each variety and in the second column the greatest quantity received during any one month. The receipts during each month for each variety are expressed as percentages of its greatest monthly volume, the latter, of course, always being 100. For example, 192,371 pounds of alewives were received during 1939. Of this total, the greatest quantity, 62,632 pounds, was received in April. Consequently the index for April is 100. During January 31,205 pounds of alewives were received. This amount is 50 percent of that received in April. The index for January is, therefore, 50. Since the index for each of the remaining species is computed in a similar manner, it is a simple matter to determine the peak month or period for any species as well as its relative abundance throughout the remainder of the year. Indices for 101 of the more important classifications are included.

#### Monthly Index of Certain Fishery Products Received at the Salt-water Market, New York, N. Y., 1939

(Expressed for each species in percentages of its greatest monthly volume)

Species	12 months	Greatest month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SALT-WATER FISH	Pounds	Pounds												
Albacore	60,890	40,658	-	*	-	-	-	-	-	23	100	26	-	-
Alewives	192,371	62,632	50	12	38	100	6	4	3	6	15	23	14	37
Anchovies	21,695	7,945	-	-	-	-	-	-	29	100	92	52	-	-
Bluefish	3,202,952	646,410	77	19	24	54	15	25	22	45	52	46	14	100
Bonito	115,871	47,323	-	-	-	-	1	45	21	100	45	32	*	-
Butterfish	9,246,423	1,371,608	43	6	65	75	60	100	66	84	69	41	21	43
Cod:														
Large	1,583,614	571,295	15	47	100	37	6	9	15	6	11	9	10	13
Market	7,508,541	892,794	65	67	70	62	57	61	55	64	70	83	100	77
Steak	11,093,656	1,184,156	74	100	99	94	98	89	63	69	50	57	80	64



Monthly Index of Certain Fishery Products Received at the  
Salt-water Market, New York, N. Y., 1939 -- Continued  
(Expressed for each species in percentages of its greatest monthly volume)

Species	12 months	Greatest month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>SALT-WATER FISH</b>	<b>Pounds</b>	<b>Pounds</b>												
Croaker	2,865,074	438,510	20	10	50	48	73	100	99	69	43	56	48	37
Dabs, sea	52,023	23,750	9	-	-	100	36	12	12	5	21	11	8	6
Dogfish	73,461	24,280	61	3	2	10	16	14	10	7	8	19	100	52
Eels:														
Common	894,085	228,317	14	9	22	23	25	43	29	24	38	40	25	100
Conger (sea)	58,042	20,866	87	35	100	18	11	-	-	-	1	4	16	6
Flounders	16,621,223	3,148,254	20	14	31	50	100	67	44	35	35	63	48	24
Fluke	3,582,410	658,833	27	48	55	21	51	100	78	80	46	12	4	21
Haddock	14,972,627	1,991,790	49	33	56	77	100	82	78	69	69	44	46	48
Hake	2,284,102	372,155	44	20	17	29	33	63	52	64	90	100	80	21
Halibut	4,607,314	791,717	2	6	9	63	100	78	90	69	70	83	13	*
Halibut, frozen	1,758,805	348,811	79	100	94	17	8	3	7	4	25	42	76	50
Herring, sea	1,014,070	141,557	32	19	100	61	60	71	40	54	68	36	75	99
Hickory shad	64,974	13,468	77	34	100	65	1	-	-	1	-	97	42	64
Jewfish (Warsaw)	47,647	9,689	100	65	61	63	58	14	9	6	22	11	11	73
Kingfish (kg. mackerel)	982,926	265,283	87	100	99	3	*	-	-	*	-	*	1	80
King whit.(kingfish)	278,397	56,099	83	26	20	47	69	21	13	9	19	21	67	100
Launce (sand eel)	68,745	28,760	3	5	*	2	12	19	6	2	14	41	100	35
Mackerel	10,159,360	2,106,544	12	1	1	23	100	70	53	60	63	43	35	20
Mackerel, frozen	1,354,860	349,481	66	94	100	33	-	-	1	16	4	16	28	30
Mullet	516,158	118,380	34	11	2	8	2	2	13	44	81	93	100	47
Pollock	2,102,756	350,313	82	28	38	36	34	26	26	32	57	71	100	70
Pompano	64,604	13,359	100	5	41	51	11	9	21	31	52	81	31	52
Sablefish, frozen	171,173	38,124	21	-	66	39	58	21	-	-	100	66	71	8
Salmon:														
Atlantic	24,498	16,814	*	-	-	-	2	100	31	6	5	-	-	-
Chinook (king)	1,131,863	277,593	-	1	1	15	84	100	89	67	29	21	1	2
Chinook(kg.)frozen	171,808	38,000	9	74	29	29	-	35	5	41	100	46	18	66
Salmon:														
Chum (fall)	19,140	15,500	-	-	-	-	-	-	-	-	2	100	22	-
Chum (fall) frozen	61,377	15,000	47	89	87	67	-	-	-	100	-	-	20	-
Silver	802,956	228,565	-	-	-	-	1	6	64	58	92	100	30	-
Silver, frozen	828,953	202,400	31	83	100	57	10	17	-	3	15	20	38	34
Scup (porgy)	9,069,457	1,327,779	37	42	72	100	74	79	79	60	36	55	23	27
Sea bass	2,415,355	400,030	46	42	90	32	68	100	62	30	38	33	36	26
Sea robin	119,562	23,018	19	61	47	42	59	28	35	31	25	100	41	31
Sea trout (weakfish):														
Gray	2,489,615	475,077	6	1	2	19	81	57	60	60	90	100	41	6
Spotted	456,257	127,282	44	23	33	21	11	*	*	2	3	44	77	100
Shad	3,791,263	1,968,128	1	4	13	100	69	4	*	*	*	*	*	*
Shad, frozen	238,953	90,000	83	8	-	-	-	-	-	-	100	-	-	75
Sharks	51,263	10,579	32	-	-	9	22	60	49	100	26	67	81	38
Silversides(spearing)	210,200	57,555	41	*	6	28	9	3	1	14	37	57	70	100
Slab wings	165,675	32,192	53	37	82	60	21	18	14	11	21	28	100	70
Smelt	954,189	187,482	84	38	77	100	2	*	-	-	8	36	66	97
Smelt, frozen	2,425,168	834,866	100	80	27	2	1	-	-	*	*	14	27	39
Snapper, red	200,127	70,930	16	11	26	28	76	4	6	3	4	2	6	100
Sole, gray	2,484,004	310,800	90	51	95	100	92	73	63	59	54	43	32	31
Spanish mackerel	1,005,916	452,309	100	30	12	9	*	*	*	*	*	3	7	60
Spot	462,698	173,487	*	1	*	1	4	4	22	48	66	100	20	1
Steelhead trout	58,093	16,997	100	65	68	9	-	-	2	-	26	-	-	72
Striped bass	1,608,274	318,951	38	60	96	100	33	8	8	20	9	56	45	32
Sturgeon	25,593	6,030	33	7	100	45	72	29	22	21	9	28	41	15
Swordfish	292,458	143,376	-	-	-	-	-	8	33	100	60	4	-	-

Monthly Index of Certain Fishery Products Received at the  
Salt-water Market, New York, N. Y., 1939 -- Continued  
(Expressed for each species in percentages of its greatest monthly volume)

Species	12 months	Greatest month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Pounds	Pounds												
<b>SALT-WATER FISH</b>														
Tautog (blackfish)	79,870	20,544	9	-	-	1	77	17	5	1	19	100	84	75
Thimble-eyed mackerel	102,914	41,780	-	-	-	-	-	-	62	51	27	100	6	-
Tilefish	956,965	161,898	65	60	87	93	100	88	3	12	*	12	32	38
Tuna	345,227	129,505	-	-	-	-	-	3	100	99	58	7	-	-
Whitebait	50,369	13,511	26	15	10	11	61	12	1	1	41	31	100	64
White perch	201,050	69,646	18	31	100	86	5	2	*	-	1	5	21	19
Whiting	7,453,457	1,084,213	72	18	25	32	70	68	58	61	55	64	100	65
Yellowtail (dabs)	16,450,834	2,473,766	90	100	86	45	18	15	25	39	47	59	63	78
Fillets, unclassified	1,724,226	257,630	6	64	100	77	70	72	38	48	42	36	82	34
Fillets, unclfd, frozen	512,123	145,920	100	42	81	22	41	11	2	7	12	27	4	2
Roe	79,983	25,169	35	66	37	32	18	4	*	-	*	16	100	9
Unclassified	2,190,928	312,948	72	100	62	23	57	49	31	37	59	65	88	55
Total	159,335,064	17,443,608	72	61	79	86	100	85	72	73	72	77	69	66
<b>FRESH-WATER FISH</b>														
Brook trout	62,704	9,068	26	32	32	43	64	86	65	100	80	75	43	45
Carp	152,920	35,072	49	48	100	87	18	4	4	1	27	19	49	29
Catfish & bullheads	107,151	14,293	95	98	72	98	87	6	-	-	29	100	88	76
Unclassified	53,602	13,265	51	65	64	13	9	3	-	-	-	42	100	56
Total	376,377	56,826	70	75	100	88	45	19	13	17	36	59	82	57
<b>SHELLFISH, ETC.</b>														
<b>Clams:</b>														
Hard	23,589,040	2,178,960	92	96	96	85	97	100	91	95	90	88	79	74
Soft	1,609,515	191,655	71	83	94	79	72	100	55	53	44	54	60	75
Soft (shucked)	15,478	8,288	-	1	1	-	-	-	1	-	2	4	80	100
Conchs	708,400	92,400	18	19	50	54	61	79	90	84	100	96	59	57
<b>Crabs:</b>														
Hard	1,897,641	377,415	28	29	26	27	15	45	40	49	100	80	35	28
Soft	1,704,489	407,955	-	-	4	17	100	93	76	77	45	7	*	-
Crab meat	813,798	112,633	42	37	44	53	57	100	80	92	62	64	47	45
Frog legs	106,114	13,860	36	49	45	17	56	68	91	81	86	100	94	43
Lobsters, common	4,015,615	488,946	52	48	41	42	75	100	91	93	81	73	60	63
Lobster meat, common	44,024	15,560	4	*	1	6	31	16	34	100	43	46	*	1
Mussels	1,870,330	222,915	38	59	95	100	99	92	60	51	64	70	55	57
Oysters, shell	8,783,325	1,247,400	86	80	89	69	4	-	-	1	79	97	99	100
Oysters, shucked	1,081,208	154,198	82	92	99	62	1	-	-	*	73	97	94	100
Periwinkles	62,519	9,318	64	56	66	81	59	100	37	23	23	64	64	33
<b>Scallops:</b>														
Bay	142,939	26,942	84	66	45	12	2	2	18	13	42	100	78	68
Sea	4,384,476	572,454	46	27	55	42	69	75	96	100	72	75	52	57
Sea urchins (sea eggs)	44,675	11,250	97	57	60	24	-	-	-	-	2	32	25	100
Shrimp	14,555,061	1,852,475	64	35	39	44	74	76	69	68	81	100	77	59
Shrimp, frozen	201,094	65,010	-	50	95	100	62	*	-	-	-	-	-	2
Squid	2,516,169	761,342	7	7	18	35	100	87	28	16	6	17	8	2
Squid, frozen	347,337	92,986	40	63	52	1	-	-	-	5	48	22	43	100
Unclassified	85,741	13,752	87	55	93	49	38	13	29	30	22	50	56	100
Total	68,581,888	6,883,440	79	71	80	74	88	92	78	79	94	100	84	78
Grand total	228,293,329	23,517,566	77	67	82	86	100	90	76	78	81	86	76	72

\* Less than  $\frac{1}{2}$  of one percent.

Note.--Includes receipts of fresh and frozen fishery products at the New York salt-water Market as reported by original receivers except imports arriving by steamship entered at New York. Receipts of filleting and hotel supply firms are incomplete. Weights shown are for fishery products as received.

## EIGHTH ANNUAL SCIENTIFIC CONGRESS MEETS IN WASHINGTON, D. C.

The Eighth Annual Scientific Congress held its meeting in Washington, D. C., from May 10 to 18, inclusive. Various fishery matters were discussed at these meetings and the Bureau furnished a statistical exhibit to explain to the delegates the extent and operations of its coverage of the fishery industries. R. H. Fiedler, Chief of the Division of Fishery Industries, U. S. Bureau of Fisheries, presented before the Statistical Section of the Congress a paper entitled "Need and Plan for a Statistical Program in Furthering Conservation of Inter-American Fisheries". This paper has been published as Fishery Memorandum S-352.

As an outgrowth of the presentation of this paper, the Congress passed the following resolution: "Since the fishing industry represents a great natural resource both from the national and inter-American viewpoints, BE IT RESOLVED by the Eighth American Scientific Congress that the Inter-American Statistical Institute be requested to devise a plan in accordance with which the American Republics may collect and publish fishery statistics in a uniform manner." The Statistical Section was attended by delegates from the United States, Mexico, Panama, Cuba, Brazil, Argentina, and Peru. Several of the countries, especially Brazil and Argentina, have taken an immediate interest in developing fishery statistical programs.

Two other members of the Bureau's staff presented papers at the Congress. The relationship between land utilization and fish conservation was discussed by Elmer Higgins, Chief, Division of Scientific Inquiry, and Paul S. Galtsoff, Senior Biologist, discussed the wasting disease causing sponge mortality in the West Indies and Gulf of Mexico.

## PRELIMINARY PILCHARD EGG CENSUS COMPLETED

Studies of the Pacific pilchard or sardine are being carried on by Bureau scientists in cooperation with the State of California and the Scripps Institution of Oceanography to determine the extent of pilchard spawning along the coast of California from San Diego to Point Conception.

The surveys indicate that at the time of initial examination the spawning grounds were seeded with approximately four trillion eggs. Samples of egg abundance were taken by specially designed nets towed at various levels from the surface down to 300 feet in depth. The pilchard spawning area is estimated to extend 50 to 100 miles offshore.

## WHOLESALE AND RETAIL PRICES

Dropping prices of farm products and foods decreased the weekly index of wholesale commodity prices to 77.8 percent of the 1926 average during the week ending May 25. This index, according to the Bureau of Labor Statistics, was a 1.5 percent decline from the index of April 27 and an increase of 2.6 percent from the May 27, 1939, figure. The foods index of 70.7 percent was 2.9 percent below the April 27, 1940, figure and 5.2 percent higher than that of May 27, 1939.

The Bureau of Labor Statistics' figures on retail food prices show a 0.8 percent increase in retail costs of food between April 16 and May 14. Of the 51 cities included in the surveys, 47 reported increases, 3 reported decreases, and in one there was no change. Twenty-six foods sold for higher prices, 14 declined in price, and 14 reflected no change.

The May retail index for all foods was 97.0 percent of the 1935-39 average. The April 16 index was 96.2 and the May 16, 1939, figure was 94.0. The average retail price of pink salmon per 16-ounce can on May 14 was 15.6 cents, 1.3 percent higher than that of April 16, 1940, and 24.8 percent more than that of May 16 of a year ago. Prices for canned red salmon averaged 25.6 cents per pound can on May 14, reflecting no change since April 16, and a rise of 11.8 percent from May 16, 1939.

## NEW ENGLAND FISH PRODUCTION DECREASES IN 1938

The yield of the commercial fisheries of the New England States for 1938 amounted to 631,520,000 pounds, valued at \$18,275,000. These figures published in Fisheries Statistical Bulletin No. 1380 indicate a decrease of 6 percent in quantity and 8 percent in value compared with the 1937 production.

Most important among items contributing to the yield were haddock with 157,935,000 pounds, worth \$3,453,000 to the fishermen; cod, 118,385,000 pounds, valued at \$2,211,000; lobsters, 11,408,000 pounds, valued at \$2,143,000; flounders, 46,835,000 pounds, valued at \$1,571,000; oysters, 8,732,000 pounds, valued at \$1,559,000; and clams, 17,977,000 pounds, valued at \$1,351,000.

Commercial operations in Massachusetts provided 537,850,000 pounds, valued at \$13,169,000; Maine, 67,206,000 pounds, valued at \$2,521,000; Rhode Island, 13,829,000 pounds, valued at \$1,056,000; Connecticut, 11,839,000 pounds, valued at \$1,420,000; and New Hampshire, 796,000 pounds, valued at \$109,000.

Persons furnished employment by the fisheries included 20,248 fishermen, 12,162 persons engaged in 421 wholesale fishery manufacturing establishments, and 306 employees utilized on transporting craft. Manufactured products (canned, cured, packaged, and byproducts) were valued at \$19,967,000.

## NEW ENGLAND VESSEL LANDINGS DECREASE IN APRIL TO HALF NORMAL SIZE

Only 16,318,000 pounds of fish were landed by fishing vessels of five net tons and over at Boston and Gloucester, Mass., and Portland, Maine, during April, according to Fisheries Statistical Bulletin No. 1383. This was a decrease of 32 percent from the March 1940 landings and 57 percent from the April 1939 total. The value of the receipts, \$629,000, was a decrease of 34 percent and 24 percent, respectively, from the March 1940 and April 1939 valuations. Boston furnished 76 percent of the landings, Gloucester 18 percent, and Portland 6 percent. Haddock, at 9,182,000 pounds, decreased 37 percent below the landings of this item in April 1939. Cod landings increased 117 percent to 2,912,000 pounds in the year, and rosefish, flounders, and pollock declined 51 percent, 36 percent, and 82 percent, respectively, to total 2,014,000 pounds, 1,302,000 pounds, and 355,000 pounds in order.

From January through April 1940 landings totaled 92,547,000 pounds, valued at \$3,317,000. This value exceeded by 7 percent that of the corresponding period in 1939 although the total poundage was a reduction of 19 percent. Haddock contributed 39,073,000 pounds to the landings for the four months; rosefish furnished 18,765,000 pounds; cod, 18,122,000 pounds; flounders, 7,118,000 pounds; and pollock, 5,822,000 pounds. Compared with the first four months of 1939, these totals reflected increases of 4 percent and 3 percent in the cases of rosefish and flounders, and decreases of 38 percent, 18 percent, and 17 percent in receipts of cod, haddock, and pollock.

## BOSTON FISH PIER PRICES REMAIN AT HIGH LEVEL

There were 13,327,000 pounds of fish in 555 fares landed at the Boston Fish Pier during the month of April, according to statistics compiled by the Boston Fishery Market News office. These fish were sold at an average price of 4.23 cents per pound. The quantity landed represented a decrease of 28 percent from the March 1940 landings. It was also 45 percent less than the landings in April 1939, a reduction not accompanied by a corresponding drop in value. The unit value to the fishermen increased 78 percent from April 1939 to April 1940, resulting in sales totaling \$564,000 in the latter month, only \$16,000 less than the April 1939 sales value.

A contribution of 2,157,000 pounds, 16 percent of the total landings, was made by fish taken from inshore waters. This consisted of 379 fares for which was paid an average of 3.73 cents per pound. Thirty-four percent of the landings from inshore waters consisted of



flounders, 30 percent cod, 19 percent rosefish, and 11 percent haddock. Offshore waters furnished 11,169,000 pounds, or 84 percent of the total landings. This total included 176 fares and contained 73 percent haddock and 16 percent cod. Fishermen received an average price of 4.32 cents per pound for these fish.

The Boston landings for the four months ending with April totaled 74,466,000 pounds, a 17 percent decrease from the 89,570,000 pounds received in the first four months of 1939. The average price paid was 3.90 cents per pound, 34 percent higher than the average price of 2.90 cents per pound paid during the 4-month period of 1939. Fares totaled 1,831 as compared with 1,691 for the 1939 period.

#### FISHERIES OF MASSACHUSETTS

Groundfish.--Current reports indicate that although groundfish catches have been limited by inactivity of some units of the fishing industry because of labor controversies, prices have been very favorable. Large amounts of rosefish have been received at Gloucester, supplying the bulk of activity and employment in the fishing industry at that point.

Tuna.--Two Gloucester firms are prepared to pack tuna this year and at least four vessels are expected to engage in tuna seining.

Lobsters.--The May lobster catch was better than that for the same month in 1939. Prices were very low, however, owing, presumably, to large quantities of lobsters being imported.

#### NEW YORK CITY IMPROVES ITS FISH MARKETS

The 1939 annual report of the Division of Markets of the City of New York indicates that progress is being made in that city's efforts to furnish adequate and modern fish handling facilities in its wholesale markets. The report states that business in Unit No. 1 of the Fulton Fish Market, which has been in operation a year, is greatly improved and that construction will be started on Unit No. 2 within the next few months. "This building will be similar to Unit No. 1, and will be lined up with it seventy-five feet offshore, thus creating a long-needed parking space for buyers' trucks . . ." Sanitary conditions will be improved by the substitution of smooth street surface in place of cobble-stone paving.

In a survey of the city's retail Park Avenue Market, it was revealed that each retail licensee with a stand about the size of a large desk sells over twice as much fish as the average retail outlet in the city and operates on a margin of about 2 cents a pound profit--considerably less than that of the average retailer.

#### FISHERIES OF MARYLAND

Shad.--The run of shad this spring in Maryland was in general unsatisfactory and fishing operations were unprofitable.

Crabs.--The cold weather of the past winter has apparently affected the early supplies of crabs. Only limited numbers of this crustacean had been taken prior to the recent advent of warm weather. Runs of soft crabs and "peelers" have only recently been encountered.

#### FISHERIES OF FLORIDA

Commercial fishing along the east coast of Florida has been hindered during the early part of 1940 by rough weather, according to the Bureau's statistical agent analyzing the fisheries in that State. Unusually high winds have handicapped fishing in open waters, thereby curtailing production. Crab packers report that the supply of blue crab is extremely limited because of a scarcity of crabs. The commercial fisheries of the St. Lucie River have been reduced because of the elimination of seines as commercial gear in this area by regulation.



**Shrimp.**—A lack of shrimp in the fishing areas usually exploited by the shrimp boats of New Smyrna and St. Augustine has caused a condition of comparative inactivity in the shrimp fisheries of Florida's east coast. The shortage is attributed by fishermen to the severe cold weather of the past winter.

#### CHICAGO WHOLESALE FISH MARKET REMAINS ACTIVE IN APRIL

Receipts by the Chicago Wholesale Fish Market during April 1940 constituted a gain of 37 percent over the receipts during April last year, as shown by the monthly summary prepared by the Fishery Market News office in Chicago. A total of 4,796,000 pounds was received compared with 3,510,000 pounds for April 1939 and 5,039,000 pounds for March 1940. Contributing to the total were 78 classifications of seafood, including 31 from fresh waters, 30 from salt waters, and 17 covering species of shellfish, etc. Fresh-water fish provided 2,946,000 pounds, 61 percent of the total receipts; salt-water species contributed 1,127,000 pounds, 24 percent; and shellfish, etc., furnished 723,000 pounds, 15 percent.

Leading items contributing to the April 1940 receipts included smelt, 772,000 pounds; halibut, 592,000 pounds; shrimp, 563,000 pounds; lake trout, 486,000 pounds; yellow pike, 258,000 pounds; rosefish fillets, 241,000 pounds; and carp, 220,000 pounds. Smelt received showed an increase of 79 percent—from 432,000 pounds in March to 772,000 pounds; and yellow pike rose 316 percent—from 62,000 pounds to 258,000 pounds. Sauger, which was first in importance in the March figures with 972,000 pounds, dropped 79 percent to 205,000 pounds in April; and whitefish dropped 66 percent from 405,000 pounds to 136,000 pounds. There were numerous smaller fluctuations in the receipts during April when compared with the seafoods recorded for the previous month. Domestic sources accounted for 81 percent of the total receipts and imported species contributed the remaining 19 percent. Wisconsin was the most important State, furnishing 1,171,000 pounds, which included 691,000 pounds of smelt; Michigan followed in importance as a domestic source with 821,000 pounds, including 286,000 pounds of lake trout; Louisiana with a total of 517,000 pounds, including 492,000 pounds of shrimp, was third; and Massachusetts with 314,000 pounds and Illinois with 310,000 pounds were fourth and fifth in importance, respectively. Imported stocks included 520,000 pounds of halibut from British Columbia, 297,000 pounds of which were caught by United States fishermen and shipped in bond. Manitoba contributed 161,000 pounds of sauger.

Truck shipments provided 2,085,000 pounds, or 43 percent of the total receipts; those sent by railway freight totaled 1,569,000 pounds, or 33 percent of the receipts; and shipments sent by express weighed 1,142,000 pounds, 24 percent of the April figure.

During the first four months of 1940, 19,141,000 pounds of seafoods were received by the Chicago Market. This includes 11,266,000 pounds of fresh-water varieties, 4,964,000 pounds of items from salt water, and 2,911,000 pounds of shellfish, etc. The total was 37 percent larger than that for the first four months of 1939. The most important item contributing to the 1940 four-month figure was halibut with 2,341,000 pounds received, an increase of 41 percent over the receipts for the corresponding period in 1939. Sauger receipts were next in importance with 2,319,000 pounds, 18 percent below the 1939 figure. Whitefish received totaled 1,606,000 pounds, 103 percent more than the 1939 figure. Shrimp provided 1,565,000 pounds, 93 percent more than the previous January-April period. Following in order in the 4-month total were smelt, 1,557,000 pounds; lake trout, 1,426,000 pounds; and rosefish fillets, 1,260,000 pounds. These represented increases of 99 percent, 56 percent, and 122 percent over receipts during the first four months of 1939.

#### VALUE OF PACIFIC COAST FISHERIES DROPS 9 PERCENT IN 1938

The commercial fisheries of the Pacific Coast States experienced in 1938 a 9 percent decrease in value and a 3 percent drop in volume as compared with the catch of the previous year, according to Fisheries Statistical Bulletin 1384. Production resulted in a yield of 1,525,885,000 pounds, valued at \$26,086,000 to the fishermen, and utilized 23,635 fishermen and 18,000 persons in wholesale and manufacturing establishments. California furnished the major portion of the yield with 1,294,526,000 pounds, valued at \$17,054,000. Washington followed with 159,631,000 pounds, valued at \$6,632,000, and Oregon supplied 71,728,000

pounds, valued at \$2,400,000. Pilchard was the most important item, furnishing 1,110,401,000 pounds, valued at \$6,311,000, and salmon with 66,499,000 pounds, valued at \$4,365,000, was second in importance.

Wholesale and manufacturing establishments numbering 341 paid salaries and wages aggregating \$10,283,000 to employees in these States, and manufactured products valued at \$48,585,000 were produced.

#### FISHERIES OF CALIFORNIA

Tuna.--The Bureau's statistical agent in California reports that the current seasonal pack of tuna is about the same size as that for a similar part of the 1939 season. An exceptionally heavy run of bluefin tuna in local waters has assisted in maintaining reasonably large receipts of tuna at the canneries.

Mackerel and sardines.--There was a total cessation of fishing for mackerel and pilchards during May due to the operation of regulations protecting the supplies of these fishes. Firms canning fish in California were concentrating efforts upon the utilization of tuna.

#### FISHERIES OF WASHINGTON AND OREGON

General.--A new laboratory has been recently opened in Astoria, Oreg., to begin experimental work on the freezing and handling of crab meat. Funds for the operation of this laboratory are being supplied by the Oregon Fish Commission.

Albacore.--Prices which will be paid to the fishermen for albacore are being negotiated prior to the start of operations on this fishery.

Salmon.--The Columbia River gill net fishery for salmon was officially opened on May 1. The major part of the fishing operations was held up pending completion of seasonal agreements between certain cannery workers and fish packers. Opening gill net catches were disappointing. Trolling for salmon has been inactive since the opening of the season, with fish from this activity being sold on the open market at 12½ cents per pound for large king salmon, 7 cents for small king salmon, and 7 cents for silver salmon.

Sharks.--Increased activity in shark fishing has been forecast as a result of the offering of higher prices for shark products. The vitamins in shark oil are particularly in demand because of the partial suspension of fishing in the North Sea.

Crabs.--A new crab canning plant and oyster opening house at Bay Center, Wash., is expected to increase the production of crabs in Willapa Harbor.

#### CANADIAN GOVERNMENT WILL AID LOBSTERMEN

The Canadian Government announces a federal plan for financial aid to lobster fishermen and cannery workers for the 1940 season. Factors resulting from the war, including import restrictions imposed by the United Kingdom and France, have eliminated markets which normally take about 85 percent of the Canadian canned lobster annual pack which has averaged 97,000 cases, valued at about \$2,000,000, during the last five years. It is estimated that the 1940 pack will be less than 70,000 cases.

By the authority of the War Measures Act a Controller was appointed. He is empowered to buy as much as 55,000 cases of lobster and to sell them in whatever markets may be found. Fifty-thousand dollars has been appropriated for an advertising program and the Controller will have the help of an advisory committee in finding and developing new markets for the canned lobster.

Prices to the cannery are fixed at \$18.00 a case for grade A, \$17.00 for grade B, and not more than \$16.00 for lower grades. The cannery must certify that the fishermen were

paid not less than 5½ cents per pound for live lobster delivered at the cannery or smaller specified amounts where the cannery provided the transportation service or fishing equipment and board. These minimum prices to the fishermen, as well as the prices to the cannery, are established to a large extent at about 80 percent of the average prices from 1936 through 1938.

Canadian lobster fishermen have engaged during recent years to an increasing degree in the cooperative canning of their catch. The prevalence of grading in the industry makes it possible to pay for the pack on a graduated scale according to well-defined standards of quality.

The foregoing information was obtained from consular reports.

#### CANADIAN FISHERMEN ORGANIZE COOPERATIVES

The British Columbia Cod Fishermen's Cooperative Association has been organized at Vancouver. It has a membership of about 180 fishermen who operate in the Strait of Georgia region. These fishermen have had an organization since 1933 at which time chaotic marketing conditions caused them to organize. Prior to 1933 gluts and scarcities created a violently fluctuating market. The original organization known as the Vancouver Cod Fishermen's Association was incorporated under the Societies Act, but it has been decided that its functions can be better conducted as a cooperative association.

According to the Commercial Fishermen's Weekly, published at Vancouver, from which this information was taken, "The organization has materially helped to stabilize the lingcod marketing situation on the Vancouver wholesale market. . .". "In 1939, they marketed a total of 2,600,000 pounds of lingcod, valued at \$150,000."

"Supplies are now brought to Vancouver according to market demand; the fishermen receive the best prices obtainable and the wholesale dealers are assured of a steady movement."

Another cooperative, on Canada's eastern coast, is mentioned in the Maritime Cooperative for April 15, published in Truro, Nova Scotia. According to a report from this source, the Lockeport Fishermen's Cooperative is handling 40,000 pounds of fish a week, and has two hundred members. The organization has \$3,000 capital paid in and has repaid a debt of \$1,800. This organization was formed during the course of a labor controversy when Lockeport fishermen and fish workers went on strike. The cooperative was set up originally to handle the fish which was not delivered to the struck plants. Since the settlement of the strike the cooperative has continued in business.

Smelt fishermen of New Brunswick are also forming cooperative marketing associations. The Miramichi Fish Producers' Cooperative Association of Loggieville, covering 10 fishing districts, has operated for some time. In addition to a smaller cooperative at Shippegan, others are being organized at Richebucto, Rexton, and St. Louis, according to the Atlantic Fisherman for February. The Miramichi organization has 100 members. Its packing house, which was built in the fall of 1939, grades the smelt into three sizes and ships other species of fish caught during smelt fishing operations.

Another phase of the development of cooperatives among fishermen in Canada is represented by the recent chartering of six new credit unions in British Columbia. These seem to be largely the result of educational work conducted among members of the fishermen's cooperative in maritime British Columbia. The activity was supported by the Extension Department of the University of British Columbia which borrowed A. S. McIntyre from the Nova Scotian movement for three months and also gave the time of Norman McKenzie to aid in the work. Credit unions, which have been the keystone of cooperative development in the Maritime Provinces of Canada, are expected to prove a valuable tool in the hands of British Columbia fishermen.

#### CANADA STUDIES FAMILY FOOD PURCHASES

A report by the Canadian Bureau of Statistics discusses preliminary findings of a survey of nutrition and family expenditures for 1938-39. Calculations based on records of 1,569 families for a period of one week in the winter of 1938, of 1,145 families for a week in February 1939, and of 453 families for a week in June 1939 are cited.

Purchases of fish for these families formed 2 percent of all food expenditures, and provided less than 4 percent of the proteins, 3 percent of the phosphorus, and 1 percent of the calories, iron, and calcium utilized. Purchases of meats, dairy products, eggs, cereals, vegetables, and fruits constituted 21, 27, 5, 18, 9, and 8 percent, respectively, of the total food costs.

#### NEWFOUNDLAND ENCOURAGES MORE EXTENSIVE USE OF HER FISHERY RESOURCES

To aid in the utilization of fishery resources, the Newfoundland Government included items in its appropriations for the year ending June 30, 1939, as follows: Fishery guarantees, \$75,020; bait depots, \$50,747; advances to commercial fish firms, \$27,000; shipbuilding bounties, \$14,597; and bounties on dogfish, \$13,913. Another item included in the appropriations provided for assistance to commercial firms in their explorations and testing of fishing grounds and gear. This included \$140,000 for purse seiners to be furnished for three years, \$82,300 for herring traps and seines, and \$36,700 for expert fishermen and craft utilized in demonstrating methods. The financial statement which includes the foregoing figures was submitted to the Bureau of Foreign and Domestic Commerce by the American Consulate General at St. John's, Newfoundland.

#### WAR AFFECTS NEWFOUNDLAND'S COD-LIVER OIL PRODUCTION

The situation in Newfoundland concerning the production of refined cod-liver oil completely changed during the month of April owing to the invasion of Norway, according to a report submitted to the Bureau of Foreign and Domestic Commerce by the American Consul General at St. Johns. The winter fishery provided a larger production of cod-liver oil than that obtained for several years and stocks were all disposed of at good prices. An increased demand from Great Britain at prices slightly higher than those prevailing in the United States was evident with the result that sales to Great Britain were increased. Certain British firms were making inquiries with a view to shipping supplies of refined cod-liver oil to South Africa and Australia.

The summer fishery beginning in June will be operated to provide a much larger production of oils than those obtained during recent years. The price for common cod-liver oil of \$200 a ton in the middle of April was almost three times the price prevailing in 1939, making that oil a strong competitor of refined cod-liver oil in the purchase of livers and forcing cod-liver oil prices to continually advance.

#### REPORTS FROM NOVA SCOTIA INDICATE LOBSTER SEASON POOR

The American Vice Consul at Yarmouth, Nova Scotia, has reported that the price of lobsters in Nova Scotia reached what was said to be an all-time low of 8 cents per pound in the closing month of the lobster season this year. The catch of the season ending May 31 has been slightly larger than that of the preceding season, yet low prices have made it the most unfavorable in the history of lobster fishing in Nova Scotia.

Competition in United States markets from lobsters produced in Newfoundland and Cape Breton, and of canned lobsters from Nova Scotia, is said to be the cause of the low prevailing price. A curtailment of the catch in Nova Scotia during the closing month of the season was reported as a consequence.

#### CHOSON PRODUCES RECORD AMOUNT OF SARDINE OIL

A report received by the Bureau of Foreign and Domestic Commerce from the American Vice Consul at Keijo shows that the Chosen catch of sardines in 1939 was, with the exception of 1937, the largest production in the history of that country and that the production of sardine oil was larger than any previous annual total for this product. The sardine catch is estimated to have been approximately 2,578,000,000 pounds and the production of sardine



oil was reported at 10,000,000 cans of 35.7 pounds each. Information on other products from sardine operations in 1939 is not yet available.

The Vice Consul has been informed that almost all of the hardened oil now used in Japan is produced from sardine oil and that of the annual production of hardened oil in the Japanese Empire approximately 48 percent or 90,000 tons is produced in Chosen. Of the hardened oil production, 62 percent is used for the manufacture of soap; 17 percent for the manufacture of stearine, olein, and paraffin wax; and 21 percent for the manufacture of glycerine. Chosen is capable of producing approximately 15,000 tons of glycerine a year. Approximately 33,000 tons of explosives are produced in Chosen annually from glycerine. It is stated that Japan is capable of meeting its demand for glycerine from domestic production.

#### HONG KONG IMPORTS QUANTITIES OF SHARK FINS

There were 1,219,000 pounds of shark fins, valued at \$157,000, shipped to Hong Kong during 1939, according to Foodstuffs Round the World. This figure represents the lowest quantity of this item imported into Hong Kong for several years. Shark fins are prized by Orientals for the making of a special soup. The decline in imports of these fins into Hong Kong has been reportedly due to hostilities in China.

#### GERMAN WHALE UTILIZATION HALTED BY WAR

Germany's efforts to develop a new industry for utilizing the parts of whales, especially glands not used for obtaining oil, were terminated, temporarily at least, by the outbreak of war in Europe. A description of these efforts has been submitted to the Bureau of Foreign and Domestic Commerce by the American Consul in Frankfurt-on-Main, Germany.

Germany's interest in the maximum economic utilization of whale materials has been stimulated in recent years by the development of a new and modern whaling fleet, coupled with the nation's heavy dependence upon foreign sources for valuable animal products such as edible oils, medicinal glands, etc., which are consumed upon a very large scale in Germany. The utilization of whale materials was also considered as nationally important as offering possibilities of developing lucrative export trade in derivative medicinal and other products.

In 1938-39 the German Antarctic whaling fleet comprised seven factory or cooking ships and 56 catcher or "killer boats", compared with six factory and 44 catching vessels used in the 1937-38 season. The fleet brought back to Germany 83,286 metric tons of oil in 1938-39 compared with 91,609 tons in 1937-38. The smaller tonnage obtained in the more recent year was attributed to adverse factors such as less favorable weather conditions, shortening of the catching season by international agreement, as well as possible diminution of whales due to overcatching in preceding years.

In addition to the whale oil supplied by its own vessels, Germany imported during the 1937-38 season 245,490 metric tons of this product and during the first seven months of the 1938-39 season, 123,052 metric tons. This oil has been in heavy demand especially for the manufacture of margarine.

German scientists have been intensively engaged in the problems of more effective and economic utilization of all parts of the whale, giving especial attention to the utilization of whale organs, livers, pancreatic glands, etc. It is considered that upon the return of normal peace conditions an important industry can be developed for producing medicinal preparations, hormones, vitamins, etc., by the utilization of whale organs. This new industry is considered to offer attractive possibilities, due especially to the immense size of the whale compared with ordinary slaughter-house animals and fish. A whale liver weighs between 900 and 1,500 pounds while the whale pancreatic gland weighs around 45 pounds, and other glands useful for medicinal preparations are of correspondingly large size. Whale livers possess a relatively high content of vitamin A. A liver weighing 1,320 pounds contains about 1,800 million international units of vitamin A, a quantity equivalent to that contained in 6,600 pounds of cod-liver oil or 13,200 pounds of cod livers.



The foregoing figures were provided the American Consul through personal investigation, articles in commercial journals, and official German statistics. German pharmaceutical firms are reported to have accumulated sufficient experience in the utilization of whale organs in lieu of other animal products to establish the possibility of processing whale organs for vitamin A and other valuable pharmaceutical products.

Whales also offer a new source for non-pharmaceutical materials. The high lipase content of the pancreatic gland allows the preparation of a useful material for tanning processes. Whale meat appears as a source for fodder meal, valuable in supplementing Germany's insufficient domestic cattle fodder supply.

Scientists accompanying the German whaling ships on their last voyage to the Antarctic studied means of solving the problem of providing sufficiently quick action in the gathering and preservation of glandular products immediately upon the processing of the whales.

Whaling authorities in Germany do not share the general opinion that the whaling industry is necessarily facing extinction due to elimination of the supply of whales in the Antarctic region. These authorities hold that whaling operations have been concentrated in only certain specific Antarctic regions most readily accessible to whaling fleets and that considerable reserves of whales still exist in other extensive hitherto little exploited areas of the Antarctic.

#### PORTUGAL PLANS SARDINE SALES CAMPAIGN IN THE UNITED STATES

The organization controlling the production and exports of sardines and anchovies in Portugal plans to intensify efforts to increase sales in the American market. This information has been published in *Foodstuffs Round the World*. The anticipated reduction of canned fish exports from Norway because of war conditions is largely responsible for this development. Efforts to accomplish the increase will include the expenditure of about \$70,000 per year for an advertising campaign. The expenditure is contemplated to cover a period of three years. The commercial representative of the Portuguese Canned Fish Institute, Sr. Francisco Jose Guerra, was to leave Portugal on May 7 to handle preliminary contacts in the United States.

#### SEVEN NATIONS ENGAGE IN 1938-39 ANTARCTIC WHALING

During the 1938-39 whaling season 34 floating factories and two shore stations employing 281 catchers or killer boats operated in the Antarctic Ocean, where the bulk of the world's whaling activities is carried on. Seven maritime powers, including the United States, had fleets in the Antarctic during that period. Although there were more stations and killer boats operating in this region in 1938-39 than in 1937-38, its catch dropped from 46,039 whales to 38,356 whales during the later period. Some idea of the volume of raw materials handled by the expeditions may be formed from the fact that the Antarctic produced 2,820,771 barrels (373 pounds per barrel) of oil during the 1938-39 season.

About one million whales were taken throughout the world in the three centuries between 1620 and 1920, while the total taken between 1919 and 1938 was 543,622 whales. Thus over half as many were captured in 20 years of the present century as were killed in the preceding three centuries. The Whaling Treaty Act of 1936 and international agreements regulating whaling resulted from the realization that the rate of capture far outdistanced the natural rate of replacement.

Land stations in general produce bone and meat fertilizer and meat for animal and human consumption in addition to oil, while operations of factory ships usually concentrate on oil production. Tankers frequently carry the oil from the factory ships in the Antarctic to its point of disposition in the nation processing it, or in the nation that has bought the oil.

The whaling industry indirectly and directly provides employment, food, and utilities for many thousands of people throughout the world. During the 1938-39 Antarctic season there were more than 12,000 men in the whaling crews operating in that area.

## THREE COMPANIES OBTAIN UNITED STATES WHALING LICENSES IN 1939

Whaling licenses were issued to three companies by the United States in 1939, to cover operations of one factory ship, two shore stations, and fifteen killer boats. The total catch of these companies during the 1939 and 1939-40 seasons was 1,221 whales.

To engage in whaling under the flag of the United States, a license must be obtained from the Secretary of the Interior. The license fee is \$1,000. Payment of this fee permits operation of a land station or factory ship and two killer boats. The license for each additional killer boat costs \$250.

In the interests of conservation the United States whaling regulations require among other things that the fullest possible use be made of the carcasses of all whales taken. The regulations permit Eskimos to whale unmolested provided they use "native craft or canoes, propelled by oars or sails, and are not under contract to deliver their products to a third person." Suckling calves, female whales accompanied by calves, and undersized whales are protected, and certain areas are closed to whaling. The United States Coast Guard provides enforcement of the regulations and places two officers aboard each factory ship for this purpose. Officers are stationed also at shore plants.

## FROZEN FISH TRADE

## United States Cold-storage Fish Stocks Decrease

Stocks of frozen fishery products in United States cold-storage plants on May 15, 1940, declined 5 percent as compared with the amount on hand a year ago. Statistics provided by the Agricultural Marketing Service of the Department of Agriculture and published in Fisheries Statistical Bulletin No. 1382 list total holdings on May 15, 1940, of 33,627,000 pounds. This is a decrease of 5 percent compared with both the total of 35,295,000 pounds of the corresponding date a year ago and the 5-year average of 35,583,000 pounds, and a drop of 3 percent from the April 15, 1940, figure. Halibut, 3,486,000 pounds; shrimp, 2,093,000 pounds; salmon, 1,747,000 pounds; haddock fillets, 1,721,000 pounds; sea herring, 1,636,000 pounds; smelts, eulachon, etc., 1,567,000 pounds; and whitefish, 1,523,000 pounds were the leading items held.

Fish frozen during the month ending May 15, 1940, totaled 11,663,000 pounds, 23 percent below the production of frozen fish for that month a year ago and 17 percent less than the 5-year average. Freezing included halibut, 2,700,000 pounds; haddock fillets, 1,802,000 pounds; shrimp, 1,518,000 pounds; sea herring, 550,000 pounds; smelts, eulachon, etc., 522,000 pounds; and rosefish fillets, 512,000 pounds.

Cured herring in cold-storage on May 15 totaled 22,817,000 pounds compared with 18,487,000 pounds on May 15, 1939. Mild-cured salmon on hand amounted to 4,736,000 pounds compared with 3,163,000 pounds held on the corresponding date a year ago.

## Boston Firms Report Marked Drop in Cold-storage Fish Holdings

Boston cold-storage firms reported a total of 3,381,000 pounds of frozen fishery products on hand on the last Wednesday in May, according to the Fishery Market News office in that city. This was a decrease of 10 percent from the poundage on hand on the last Wednesday in April and 41 percent below the figure of the corresponding date a year previous. Included in the totals were 2,986,000 pounds of salt-water items, 12,000 pounds of fresh-water varieties, and 383,000 pounds of shellfish, etc. Shellfish stocks increased 54 percent from the April 24 total while salt-water items decreased 14 percent.

Stocks of salt-water items included 1,467,000 pounds of fillets, an amount 3 percent lower than that of April 24. Stocks of fillets displaying marked change during the 5-week period included haddock, which increased from 204,000 pounds to 626,000 pounds, and pollock, which decreased from 752,000 pounds to 357,000 pounds. Other salt-water species important in the cold-storage supplies included smelt, 575,000 pounds, and mackerel, 283,000 pounds.

The latter item suffered a drop from a total of 653,000 pounds on hand on April 24. Important shellfish stocks included scallops, 188,000 pounds, and squid, 159,000 pounds.

Filletts from salt-water species experienced a drop of 52 percent when compared with the figure of 3,053,000 pounds on hand on May 31, 1939. During this period of one year cod fillet stocks fell from 976,000 pounds to 82,000 pounds; and haddock fillets, from 1,333,000 pounds to 626,000 pounds. Other fillet stocks remained on much the same level as that of 1939. Salt-water species other than fillets displaying a marked change during the period of a year included smelt, which increased from 208,000 pounds to 575,000 pounds; mackerel, which decreased from 494,000 pounds to 283,000 pounds; and whiting, which decreased from 256,000 pounds to 58,000 pounds. Squid stocks also declined, totaling only 159,000 pounds on May 29, 1940, compared with 710,000 pounds on the corresponding date for 1939.

#### Little Change in New York Cold-storage Holdings During Month

Stocks of frozen fishery products in New York cold-storage plants on the last Wednesday of May totaled 4,687,000 pounds, an increase of 1 percent from those on hand the last Thursday in April, according to tabulations compiled by the Fishery Market News office in New York. This total included 2,352,000 pounds of salt-water items, 1,696,000 pounds from fresh-water sources, and 639,000 pounds of shellfish, etc. Only minor changes were reflected in the stocks on hand of various species contributing to the totals. A decline in the holdings of whitefish from 792,000 pounds to 574,000 pounds reduced this item to second place in importance as sturgeon stocks of 622,000 pounds assumed first place. Spiny lobster tail stocks increased from 202,000 pounds to 305,000 pounds to become third in importance. Shad with 299,000 pounds was fourth; buffalofish and carp, 289,000 pounds, fifth; and butterfish, 272,000 pounds, sixth.

The New York cold-storage holdings of a corresponding date in 1939 totaled 5,496,000 pounds, 15 percent greater than the May 29, 1940, holdings. Since the earlier date, stocks of shellfish, etc., decreased 52 percent, and those of salt-water items decreased 10 percent. Major changes during the year were reflected in the stocks of buffalofish and carp--289,000 pounds on May 29, 1940, and 69,000 pounds on May 25, 1939; shrimp, decreasing from 563,000 pounds to 123,000 pounds; and Japanese swordfish, declining from 381,000 pounds to 128,000 pounds.

#### Chicago Cold-storage Plants Increase Holdings of Fishery Items during Month

In Chicago stocks of frozen fishery products in cold-storage plants increased 5 percent during the 5-week period ending May 29, according to reports from the Chicago Fishery Market News Service office. There were 3,491,000 pounds of these stocks on hand on this date compared with 3,319,000 pounds on hand on April 25. Included in the total were 1,771,000 pounds of fresh-water items, accounting for 51 percent of the total; 785,000 pounds of salt-water varieties, 22 percent; 527,000 pounds of shellfish, 15 percent; and 408,000 pounds of unclassified items, 12 percent. First in importance among fresh-water items was blue pike and sauger, 546,000 pounds, a 16 percent decrease from the total of five weeks previous. Shrimp followed with 400,000 pounds, an increase of 163 percent from the earlier figure; whitefish stocks were next in importance with 322,000 pounds, a decrease of 16 percent; smelt displayed an increase of 51 percent with a total of 269,000 pounds on hand; and lake trout fell 32 percent to 202,000 pounds. Halibut stocks increased from 73,000 pounds to 152,000 pounds to lead salt-water items, while rosefish declined from 225,000 pounds to 33,000 pounds.

The May 29 holdings represented a decrease of 27 percent from the 4,781,000 pounds of frozen fishery products on hand on June 1, 1939. Changes in stocks of individual species during this period of a year included decreases of 88 percent, 77 percent, 59 percent, and 22 percent in the case of rosefish fillets, haddock fillets, blue pike and sauger, and shrimp.

#### Halibut Becomes a Major Item in Canadian Cold-storage Stocks

With over one and one-half million pounds of halibut frozen in May, this item became second in importance among the species making up the fisheries holdings of cold-storage plants in Canada on June 1, 1940. The preliminary information provided by the Dominion

Bureau of Statistics shows that on June 1 there were 14,185,000 pounds of frozen fresh fishery products on hand. Items included in these holdings were sea herring, 3,659,000 pounds; halibut, 2,389,000 pounds; and cod fillets, 1,367,000 pounds. The holdings constituted an increase of 19 percent over the amounts on hand on May 1, 1940, and a decrease of 21 percent from those of June 1, 1939.

Also held in Canadian cold-storage plants on June 1 were 2,064,000 pounds of frozen smoked fishery products, a decrease of 7 percent from the total of May 1 and 3 percent less than that of the first day of June 1939. Included in this total were groundfish fillets, 1,306,000 pounds, and finnan haddie, 320,000 pounds.

These Canadian plants froze 5,180,000 pounds of fresh fish and 306,000 pounds of smoked fish during May. The fresh fish frozen constituted a 67 percent increase from the April figure and a gain of 47 percent over the amount frozen in May 1939. It included 1,540,000 pounds of halibut, 1,374,000 pounds of cod fillets, and 1,118,000 pounds of sea herring. Smoked products frozen suffered a 75 percent decrease from the total of April 1940 and a 24 percent drop from the May 1939 figure. Included in the smoked products frozen were 248,000 pounds of groundfish fillets.

#### CANNED FISH TRADE

##### Canned Salmon Stocks Decrease 10 Percent

On May 31 there remained unsold in the hands of packers 1,120,000 standard cases (48 one-pound cans) of salmon, according to the Association of Pacific Fisheries. This indicates that 10 percent of the 1,250,000 standard cases unsold on April 30 were sold during the month. The May 31 total is 5 percent larger than that of a year previous when 1,068,000 cases remained unsold.

The May 31 total included 19,000 cases of chinook or king salmon, 62,000 cases of chum, 108,000 cases of humpback or pink, 56,000 cases of silver or coho, 849,000 cases of Alaska red, 26,000 cases of Puget Sound sockeye, and several hundred cases of bluebacks and steelheads.

##### May Canned Shrimp Production Totals 18,000 Cases

The 40 shrimp packing plants covered in the operations of the Seafood Inspection Service of the Food and Drug Administration reported a production of 18,000 standard cases of shrimp during May, running the season's total to 1,097,000 cases to June 1. The 1939 pack to a corresponding date totaled 1,075,000 cases.

The following prices of canned shrimp in usual wholesale quantities, f.o.b. point of production, were reported by Gulf Coast packers to be in effect on June 1, 1940:

	Per dozen No. 1 tall tins	
	<u>Wet pack</u>	<u>Dry pack</u>
Small	\$1.10 - 1.15	\$1.10 - 1.15
Medium	1.15 - 1.20	1.15 - 1.20
Large	1.20 - 1.25	1.20 - 1.25
Extra large or jumbo	1.25 - 1.30	1.25 - 1.30

##### Tuna Pack Shows Slight Increase

The California tuna pack at the end of April amounted to 747,000 cases of 48 one-pound cans, according to a preliminary release issued by the Division of Fish and Game of the State of California. The pack has increased about 50 percent since March 31 when the total for the current season amounted to 490,000 cases. The pack for the 4-month period of 1940 represents only a slight increase--3 percent--over the pack for the same period in 1939.



Yellowfin contributed 73 percent to the total pack. Other varieties as they appeared in order of volume canned were striped tuna; tuna, tonno style; tuna flakes, bluefin; bonito; yellowtail; and albacore. Sixty-seven percent of all tunas canned were processed in the San Diego district.

California cannery packed no sardines or mackerel during April.

#### Pacific Firm Cans Smoked Crab

The Bureau's market news agent in the Pacific Northwest has notified the Bureau that a Pacific Coast firm has started commercial production of smoked crab meat, utilizing picked meat of the Dungeness crab. The product is described as a specialty product having an excellent flavor and appearance.

#### FOREIGN FISHERY TRADE

##### April Foreign Trade in Fishery Products Shows Slight Gain

From the low of 32,984,000 pounds reached in March, the United States's trade in fishery products rose 4 percent to 34,293,000 pounds in April, according to statistics furnished by the Bureau of Foreign and Domestic Commerce. The April 1940 figure was 10 percent higher than the total for April 1939 and the activity for the first four months of 1939 exceeded by 5 percent that of the January-April 1939 period.

Imports for April exceeded those of March by 8 percent and eclipsed those of April 1939 by 1 percent. Included in the total of 22,286,000 pounds were pickled and salted cod, haddock, hake, etc., 4,706,000 pounds; fresh and frozen fresh-water fish, 2,945,000 pounds; pickled and salted herring, 2,683,000 pounds; canned sardines, 1,450,000 pounds; lobsters, not canned, 1,419,000 pounds; tuna, 316,000 pounds; and canned lobsters, 31,000 pounds. Lobsters, not canned, displayed an increase of 147 percent over imports in March and a gain of 77 percent compared with April of a year ago. Imports of pickled or salted cod, haddock, hake, etc., increased 71 percent above the March 1940 figure and 35 percent above that of April 1939. Fresh and frozen fresh-water fish were received in a quantity 45 percent below that of March, yet 31 percent greater than the corresponding month of 1939. Other striking fluctuations included a rise in imports of pickled and salted herring amounting to 82 percent over the April 1939 figure and a decrease of 56 percent in the canned tuna received as compared with that received in April 1939.

From January through April 1940 imports of canned crab meat have exceeded those of the corresponding period of 1939 by 152 percent; imports of canned lobsters have exceeded their previous total by 59 percent; canned tuna has gained 30 percent; lobsters, not canned, 17 percent; pickled or salted herring, 12 percent; and fresh and frozen fresh-water fish, 4 percent; while decreases from the previous totals included canned sardines, 36 percent and pickled and salted cod, haddock, hake, etc., 7 percent.

Edible fishery commodities exported during April totaled 12,007,000 pounds, 2 percent less than the exports of the previous month and 34 percent larger than those of April 1939. There were 5,721,000 pounds of canned sardines included in this total, a figure 41 percent below that of March and 100 percent larger than that of April a year ago. Canned salmon contributed 5,370,000 pounds of exports, exceeding by 437 percent the total for March and by 47 percent the April 1939 figure. One hundred fifty-five thousand pounds of canned shrimp were also included in the exports. Totals for the four months ending with April credit export trade in fishery commodities with a 26 percent gain over the similar period in 1939. The 59,693,000 pounds of exports for the 1940 period included 37,360,000 pounds of canned sardines, 15,909,000 pounds of canned salmon, and 890,000 pounds of canned shrimp. These represented decreases of 54 percent and 6 percent for canned shrimp and canned salmon, respectively, and a gain of 97 percent in canned sardine exports.

#### THE COVER PAGE

Soft and peeler crabs form an important source of revenue for Atlantic Coast fishermen. The photograph on the cover page shows a number of crab dealers' floats at Crisfield, Maryland. Peeler crabs are held in these floats until they have molted and they are then marketed as soft crabs before the new shell has become hardened. Maryland and Virginia fishermen realized \$436,000 in 1938 from sales of soft and peeler crabs.



**FISHERY TRADE INDICATORS**  
(Expressed in Thousands of Pounds)

Item	Month	Latest Month	Same Month a year ago	Previous Month
<b>FRESH FISH LANDINGS</b>				
Boston, Mass. ....	April .....	12,392	32,029	19,203
Gloucester, Mass. ....	do .....	2,860	4,924	3,662
Portland, Me. ....	do .....	1,061	538	1,223
Boston, Gloucester, and Portland:				
Cod .....	do .....	2,907	13,367	5,698
Haddock .....	do .....	9,182	14,592	10,158
Pollock .....	do .....	355	1,999	1,132
Rosefish .....	do .....	2,014	4,142	4,464
Pacific Coast:				
Halibut, North Pacific ports. ....	do .....	7,733	6,785	--
Halibut, Seattle .....	do .....	2,931	2,638	--
<b>FISH RECEIPTS, CHICAGO 1/</b>				
Salt-water fish .....	do .....	1,127	721	1,214
Fresh-water fish .....	do .....	2,946	2,333	3,067
Shellfish, etc. ....	do .....	723	457	738
By truck .....	do .....	2,084	1,504	1,851
By express .....	do .....	1,569	1,214	522
By freight .....	do .....	1,142	792	2,265
<b>COLD-STORAGE HOLDINGS 2/</b>				
New York, N. Y.:				
Salt-water fish .....	May .....	2,352	2,622	2,257
Fresh-water fish .....	do .....	1,696	1,534	1,914
Shellfish, etc. ....	do .....	639	1,340	480
Boston, Mass.:				
Salt-water fish .....	do .....	2,986	4,825	3,485
Fresh-water fish .....	do .....	12	17	2
Shellfish, etc. ....	do .....	383	575	250
Chicago, Ill.:				
Salt-water fish .....	do .....	785	1,097	937
Fresh-water fish .....	do .....	1,771	2,736	1,969
Shellfish, etc. ....	do .....	537	599	241
Unclassified .....	do .....	406	233	173
United States:				
Cod fillets .....	do .....	552	1,416	466
Haddock fillets .....	do .....	1,721	2,086	1,071
Halibut .....	do .....	3,486	2,897	1,102
Mackerel .....	do .....	1,445	955	1,833
Pollock fillets .....	do .....	873	648	1,794
Rosefish fillets .....	do .....	515	433	1,450
Salmon .....	do .....	1,747	2,013	2,256
Whiting .....	do .....	1,430	1,679	2,536
Shrimp .....	do .....	2,093	3,429	2,125
New England, all species .....	do .....	5,766	6,012	8,398
Middle Atlantic, all species .....	do .....	7,991	8,003	7,595
South Atlantic, all species .....	do .....	1,447	2,508	1,379
North Central East, all species .....	do .....	7,544	7,980	8,011
North Central West, all species .....	do .....	1,748	2,028	1,918
South Central, all species .....	do .....	857	1,104	763
Pacific, all species .....	do .....	8,254	7,660	6,672
<b>FOREIGN FISHERY TRADE 3/</b>				
Exports:				
All edible fishery commodities .....	April .....	12,007	8,990	12,290
Canned salmon .....	do .....	5,370	3,655	1,000
Canned sardines .....	do .....	5,721	2,866	9,660
Canned shrimp .....	do .....	155	427	192
Imports:				
All edible fishery commodities .....	do .....	22,286	22,171	20,694
Fresh-water fish and eels, fresh or frozen .....	do .....	2,945	2,243	5,313
Canned tuna .....	do .....	516	716	219
Canned sardines .....	do .....	1,450	2,042	1,216
Cod, haddock, hake, etc., pickled or salted .....	do .....	4,706	3,486	2,752
Herring, pickled or salted .....	do .....	2,683	1,478	2,242
Crab meat, sauce, etc. ....	do .....	131	500	230
Lobsters, not canned .....	do .....	1,419	803	574
Lobsters, canned .....	do .....	31	3-	76

1/ Includes all arrivals as reported by express and rail terminals, and truck receipts as reported by wholesale dealers, including smokers.

2/ Data for individual cities are as of the last Thursday of the month, except those at Boston which are for the last Wednesday of the month, and those for geographical areas and the total of the United States which are as of the 15th of the month.

3/ From data compiled by the Bureau of Foreign and Domestic Commerce.

Note.—Data for the latest month are subject to revision.

PRINCIPAL FIELD OFFICES AND LABORATORIES  
OF THE U. S. BUREAU OF FISHERIES

Division of Fishery Industries

Boston, Mass. ....	B. E. Lindgren.....	253½ Northern Ave. Market News Service.....
Chicago, Ill. ....	E. C. Hinsdale.....	200 N. Jefferson St. Market News Service.....
College Park, Md. ....	J. M. Lemon.....	Horticultural Bldg., U. of Md. Fish. Tech. Laboratory....
Jacksonville, Fla. ....	S. C. Denham.....	309 Duval Bldg. Market News Service.....
New Orleans, La. ....	C. E. Peterson.....	1100 Decatur St. Market News Service.....
New York, N. Y. ....	W. H. Dumont.....	33-A Fulton St. Market News Service.....
San Pedro, Calif. ....	C. B. Tendick.....	Post Office Bldg. Fishery Statistics.....
Seattle, Wash. ....	V. J. Samson.....	421 Bell St. Terminal. Market News Service.....
Seattle, Wash. ....	R. W. Harrison.....	2725 Montlake Blvd. Fisheries Tech. Laboratory.....

Division of Fish Culture

LaCrosse, Wis. ....	C. F. Culler.....	Regional Headquarters.....
Seattle, Wash. ....	F. J. Foster.....	2725 Montlake Blvd. Regional Headquarters.....

Division of Scientific Inquiry

Ann Arbor, Mich. ....	Dr. John Van Oosten.....	University Museums. Great Lakes Fish. Investigations
Beaufort, N. C. ....	Dr. Herbert F. Prytherch...	Fisheries Biological Laboratory.....
Cambridge, Mass. ....	W. C. Harrington.....	Room A-210 Harvard Biol. Lab. N. At. Fish. Investigations.
College Park, Md. ....	Robert A. Nesbit.....	Horticultural Bldg., U. of Md. Mid. & S. At. Fish. Invest.
Columbia, Mo. ....	Dr. M. M. Ellis.....	101 Willis Ave. Interior Waters Investigations.....
Milford, Conn. ....	Dr. Victor Loosanoff.....	Fish. Laboratory. New England Oyster Investigations
New Orleans, La. ....	M. J. Lindner.....	336 Chartres St. Gulf Shrimp Investigations.....
Pensacola, Fla. ....	Dr. A. E. Hopkins.....	Box 1826. Gulf Oyster Investigations.....
Seattle, Wash. ....	Dr. F. A. Davidson.....	2725 Montlake Blvd. Fisheries Biological Laboratory.
Stanford University, Calif.	O. E. Sette.....	Room 450-B Jordan Hall. Pilchard Investigations.....

Division of Alaska Fisheries

Cordova, Alaska.....	Frederick G. Morton.....	Alaska Fisheries Service....
Juneau, Alaska.....	C. L. Olson.....	Federal Bldg., Alaska Fisheries Service.....
Ketchikan, Alaska.....	J. Steele Culbertson.....	Alaska Fisheries Service....
Seattle, Wash. ....	(Miss) Ted Murphy.....	706 Federal Bldg. Alaska Fisheries Service.....

## FISHERY INDUSTRIAL AND MARKETING PUBLICATIONS

There follows a list of some of the industrial or marketing publications of the Bureau of Fisheries, which are available for purchase from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the prices quoted. Price list 21, the most complete list of Bureau sales publications, may be obtained from the Superintendent of Documents, free of charge.

### INVESTIGATIONAL REPORTS

- No. 43. Some Effects of Ultraviolet Irradiation of Haddock Fillets. 1939. 5¢.
- No. 42. A Plan for the Development of the Hawaiian Fisheries. 1939. 10¢.
- No. 41. The Mineral Content of the Edible Portions of Some American Fishery Products. 1938. 5¢.
- No. 40. Pacific Salmon Oils. 1939. 5¢.
- No. 39. Trade in Fresh and Frozen Fishery Products and Related Marketing Considerations in the San Francisco Bay Area. 1938. 10¢.
- No. 38. Marketing of Shad on the Atlantic Coast. 1938. 10¢.
- No. 37. Preliminary Report on the Cause of the Decline of the Oyster Industry of the York River, Va., and the Effects of Pulp-mill Pollution on Oysters. 1938. 10¢.
- No. 32. Studies on Drying Cod and Haddock Waste. 1935. 5¢.
- No. 30. Effect of Manufacture on the Quality of Nonoily Fish Meals. 1935. 5¢.
- No. 28. Studies on the Utilization of Swordfish Livers. 1935. 5¢.
- No. 26. Fishery for Red Snappers and Groupers in the Gulf of Mexico. 1935. 5¢.
- No. 25. The Iodine Content of Some American Fishery Products. 1935. 5¢.
- No. 24. Modifications in Gear Curtail the Destruction of Undersized Fish in Otter Trawling. 1935. 5¢.
- No. 21. Shrimp Industry of the South Atlantic and Gulf States. 1934. 10¢.
- No. 20. Studies on the Smoking of Haddock. 1934. 5¢.
- No. 18. The Iodine Content of Oysters. 1934. 5¢.
- No. 16. Developments in Refrigeration of Fish in the United States. 1932. 5¢.
- No. 14. Fisheries of the Virgin Islands of the United States. 1932. 5¢.
- No. 13. Fisheries of Puerto Rico. 1932. 5¢.
- No. 7. Market for Marine Animal Oils in the United States. 1931. 15¢.
- No. 1. Menhaden Industry. 1931. 25¢.

### FISHERY CIRCULARS

- No. 25. Natural History and Methods of Controlling the Common Oyster Drills. 1937. 5¢.
- No. 23. Decline in Haddock Abundance on Georges Bank and a Practical Remedy. 1936. 5¢.
- No. 22. Organizing and Incorporating Fishery Cooperative Marketing Associations. 1936. 5¢.
- No. 21. The Story of Oysters. 1936. 5¢.
- No. 19. Practical Fish Cookery. 1935. 5¢.
- No. 18. Conditions Affecting the Southern Winter Trawl Fishery. 1935. 5¢.
- No. 15. Aquatic Shell Industries. 1934. 5¢.
- No. 12. Introduction of Japanese Oysters into the United States. 1932. 5¢.
- No. 11. Some Unusual Markets for Fish and Shellfish. 1932. 5¢.
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### DOCUMENTS

- No. 1092. Pacific Salmon Fisheries. 1930. 65¢.
- No. 1078. Utilization of Shrimp Waste. 1930. 10¢.
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- No. 1065. Bibliography on Cod-liver Oil in Animal Feeding. 1925. 10¢.
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### ADMINISTRATIVE REPORTS

- No. 37. Fishery Industries of the United States, 1938. 35¢.
- No. 36. Alaska Fishery and Fur-seal Industries in 1938. 15¢.
- No. 35. Progress in Biological Inquiries, 1938. 15¢.
- No. 34. Propagation and Distribution of Food Fishes, Fiscal Year 1938. 10¢.

ORDERS FOR THE ABOVE-LISTED PUBLICATIONS SHOULD BE FORWARDED DIRECT TO THE  
SUPERINTENDENT OF DOCUMENTS, GOVERNMENT PRINTING OFFICE, WASHINGTON, D. C.,  
AND NOT TO THE BUREAU OF FISHERIES

# FISH COOKERY IN THE OPEN

Special Memorandum 3215-A

Many of the inconveniences and annoyances that usually accompany our camping experiences can be eliminated through enlargement of our knowledge of fish cookery. "Fish Cookery in the Open" provides an opportunity to increase this knowledge.

This 25-page leaflet contains instructions for making and utilizing adequate fires, for preparing fish for cooking, and for cooking fish and shellfish. Recipes are included which cover frying, broiling, boiling, and baking fish, preparing sauces, making chowders, and cooking crawfish, shrimp, frog legs, crabs, clams, and oysters. The pamphlet also contains a generous offering of suggestions on other phases of camp operation and equipage.

Among the appetizing recipes appearing in this memorandum is the following:

## Fish Chowder

3 pounds lean fish, cleaned,	2/3 cup diced salt pork
scaled, and with heads off	1 quart milk
3 cups sliced potatoes	2 teaspoons salt
2/3 cup sliced onions	1/4 teaspoon pepper
2 cups water	

Dried whole milk prepared for general use may be substituted for fresh milk, increasing salt to about 3 teaspoons.

In a kettle of at least 1 gallon capacity, fry the pork to a golden brown, add the onions and fry to a light yellow. Then add the potatoes, seasoning, and water; mix the whole. Lay the fish on top and cook about 5 minutes or until flesh can be separated from bones and skin. Lift the fish out carefully, separate flesh from skin, fins, and all bones. Return clear flesh to kettle, stir just enough to mix with the potatoes and cook until the latter are soft. Add warm (but not boiled) milk. Add hard crackers just before serving.

"Fish Cookery in the Open" may be obtained upon request from the Bureau of Fisheries, Washington, D. C.

FISHERIES OF NORTH AMERICA  
WITH SPECIAL REFERENCE TO THE UNITED STATES

With an annual yield of about 6.6 billion pounds of aquatic products, the commercial fisheries of North America are among the most productive in the world, according to an article by R. H. Fiedler, Chief of the Bureau's Division of Fishery Industries, entitled "Fisheries of North America, with Special Reference to the United States", which was published in The Geographical Review for April 1940. The commercial fisheries of the United States alone yield nearly 4.5 billion pounds each year.

It is pointed out in the article that the North American fisheries in early years were conducted close to shore but with the construction of larger vessels more distant fishing grounds have been exploited. Today the United States catch on the high seas off foreign countries aggregates nearly 10 percent of the volume and 15 percent of the value of our total commercial fisheries yield. In turn, there is some fishing by foreign vessels off United States territory. The species forming the raw material of the domestic fisheries of North America in general feed, grow, reproduce, and migrate within the confines of the continental shelf or the streams and lakes of the continent and consequently form, for all practical purposes, a North American resource.

The complete article deals in considerable detail with the history, biology, and current economics of the North American fisheries. It further includes a map which shows the location of the important fisheries and a chart which indicates the ranges of capture and spawning, and the nature of conservation activities.

A limited number of reprints of this article are available without cost upon application to the Bureau of Fisheries, Washington, D. C.



